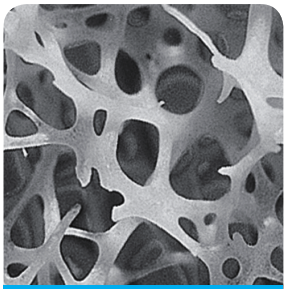
All about **Osteoporosis**

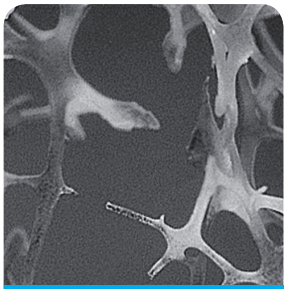
OSTEOPOROSIS
NEW ZEALAND
Better bones, fewer fractures

What is osteoporosis?

Osteoporosis literally means 'porous bone'. It is a condition that causes bones to become thin and fragile, decreasing bone strength and making them more prone to fractures. It is often called the 'silent disease' as bone loss occurs without any external symptoms.



Normal healthy bone



Osteoporotic bone

The result is that bones break easily, even following a minor bump or fall. Healthcare professionals may refer to these broken bones as fragility fractures or osteoporotic fractures. These terms all mean the same thing.

Fractures (bone breaks) can occur in any part of the body, the most common sites of a fragility fracture are the wrist, spine, shoulder and hip.

Osteoporosis is sometimes confused with osteoarthritis. Osteoporosis is a bone disease; osteoarthritis is a disease of the joints and surrounding tissue.

Fractures due to osteoporosis are a major cause of pain and often means that there is long-term disability and loss of independence among older adults. Osteoporosis can even result in premature death.

> *If you are over 50 and have broken a bone as a result of a minor fall or bump, talk to your doctor or healthcare provider about osteoporosis and a bone health assessment.*

Whom does it affect?

Osteoporosis affects both women and men.

> *At least 1 in 3 women and 1 in 5 men over the age of 50 will suffer a fragility fracture due to osteoporosis (broken bone due to fragile bones).*

Women are at greater risk of osteoporosis due to the rapid decline in oestrogen levels after menopause. When osteogen levels decrease, bone tissue is progressively lost and bones become less dense and more fragile.

Men also lose bone as they age, but less rapidly than women.

Fragility fractures

Fractures from osteoporosis are common. At least 1 in 3 women and 1 in 5 men will suffer from a fragility fracture.

After having a fragility fracture, the chance of having another fracture doubles. It is essential that fracture risk is evaluated and treatment considered to prevent further fractures.

Hip fractures are the most serious fractures caused by osteoporosis. Importantly, half of people who break their hip have broken another bone – the wrist, spine, or shoulder – before breaking their hip.

The first fragility fracture provides an opportunity to seek treatment to prevent further fractures, especially painful and potentially life changing hip fractures.

> *Respond to the first fracture (broken bone) to prevent a second. After your first fragility fracture, your risk of having another fracture doubles.*

Risk factors for osteoporosis

Awareness of risk and early diagnosis are key to the treatment of osteoporosis.

Both women and men may have certain 'risk factors' that can make them more likely to develop osteoporosis. Discuss any risk factors you might have with your doctor.

If you are over 50 and have any of the risk factors outlined below you may have low bone density – ask your doctor about a bone density scan (a painless way to find out if your bones are fragile).

Fracture history

If you have broken a bone after a seemingly minor injury since your 50th birthday.

Family history

Bone health can be inherited. If anyone in your immediate family has osteoporosis, had a broken hip, rapidly lost height or developed a stooped back.

Low Body Weight

People who are underweight (BMI<20) have significantly increased fracture risk.

Medical history

Certain conditions and medications can impact on bone health.

- Using corticosteroid medications (frequently used for asthma, rheumatoid arthritis and other inflammatory conditions).
- Some endocrine conditions – low oestrogen in women, low testosterone in men.
- If you have an overactive thyroid, parathyroid glands or went through early menopause.
- Conditions leading to malabsorption of food e.g. coeliac disease, inflammatory bowel disease
- Some chronic diseases e.g. rheumatoid arthritis, chronic liver or kidney disease
- Some medicines for breast cancer, prostate cancer and epilepsy

Other factors

- Low levels of physical activity
- Smoking
- Excessive alcohol intake

Know your own risk factors

Complete your own test to find out whether you may have specific factors which place you at higher risk of osteoporosis and fractures. You can use:

FRAX® provides a 10 year risk of hip or fragility fracture. FRAX® is a fracture assessment tool that has been developed in conjunction with the World Health Organisation.

Or

The International Osteoporosis Foundation (IOF) One-Minute Osteoporosis Risk Test.

Both of these tools can be tests can be found on our website **www.osteoporosis.org.nz**. Search FRAX® or One-minute Test.

Prevention & management of osteoporosis

The good news is that there are many ways to prevent and manage osteoporosis at every stage of life. Take charge of your bone health today!

Children and adolescents need to **BUILD** maximum peak bone mass.

Adults need to **MAINTAIN** healthy bones and avoid premature bone loss.

Older people need to **SUSTAIN** mobility and independence.

Building strong bones throughout your lifetime means you can continue to do the things you enjoy for longer.

To reach optimal peak bone mass and continue building and maintaining bone tissue as you get older:

- Exercise regularly
- Eat well
- Create healthy lifestyle habits
- Talk to your doctor about the risk factors you might have

Exercise regularly

Ideally you should aim to do at least 30 minutes of weight-bearing physical activity every day. The best exercises for bones are ones that work your muscles against gravity. Some examples are walking briskly, jogging, tennis, dancing, low-impact aerobics or golf.

Resistance training or muscle strengthening exercises that suit your needs and abilities will help improve coordination and balance. This helps to maintain mobility and reduce the risk of falls and fractures.

Talk to your doctor about which sort of physical activity is best for you and if a Green Prescription is appropriate.

Strong bones are crucial to good health, and good nutrition is crucial to strong bones.

Eat well

Calcium

Calcium is an important component of bone. Our skeleton stores 99% of our bodies' calcium. We need to eat enough calcium to maintain our skeletons and maintain blood calcium levels for healthy nerve and muscle function.

Try to eat 2-3 servings per day of calcium rich foods such as dairy products, calcium-rich vegetables, tinned sardines/salmon (including the bones), calcium-rich nuts and fruits. While recommendations differ as to how much calcium you should have in your diet, generally around 500mg/day (about 2-3 servings of dairy products) is sufficient for an adult. There is no evidence that eating any more than this is helpful.

Vitamin D

Vitamin D is essential for the absorption of calcium from the diet, bone development, control of cell growth and immune functioning, and has also been linked with the prevention of muscle weakness, which is important for preventing falls.

When vitamin D levels are very low your bones suffer.

The best source of Vitamin D is sunlight. Vitamin D is naturally created in the skin from exposure to sunlight. For Vitamin D synthesis, exposure must be to direct sunlight as UVB does not pass through glass. In New Zealand exposure should be restricted at high UV times.

For most people, vitamin D deficiency can be prevented by 5 – 15 minutes' exposure of face, arms and hands to sunlight 4 – 6 times per week.

In winter (May to August) a brisk walk or other form of outdoor physical activity around the middle of the day is a good way to increase your vitamin D.

In Summer (September to April) it is important to understand that any sun exposure between the hours of 10am to 4pm can increase the risk of skin cancer. Remember it is essential to slip, slop, slap and wrap during these hours. It is best to schedule outdoor activity to early morning or late afternoon.

Individuals who never go outside (if they are frail or unwell), those who are veiled, and those who have dark skin, are at risk of vitamin D deficiency, so might benefit from a vitamin D supplement. The use of supplements by those who are not deficient does not improve bone health. Most healthy European New Zealand adults living independently do not require vitamin D supplements.

Prevent falls

You can make some simple changes at home to reduce the risk of fractures by fall-proofing your home.

Reduce clutter at floor level, wear well-fitting shoes or slippers and make sure surfaces are slip-proof: rugs should have a skid-proof backing.

Have grab rails installed in the bathroom and toilet, and make sure that your lighting is bright enough. For more ideas on how to keep your home safe, complete the ACC home safety checklist (ACC5218).

It is also a good idea to have regular eye check-ups.

Healthy lifestyle habits

Limit alcohol

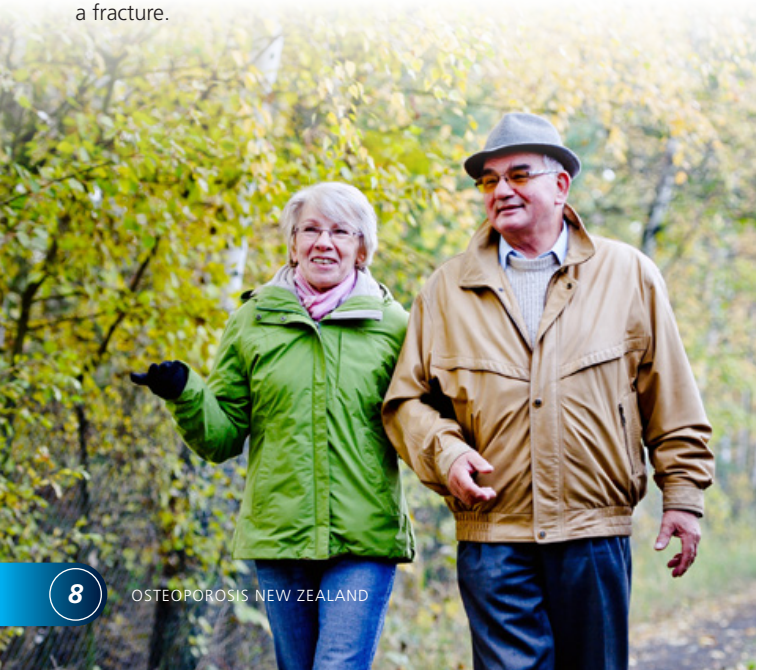
While a daily glass or two of wine or beer won't impact on your bone health, more than two units of alcohol per day can raise your fracture risk a lot. Aiming for no more than 2 standard drinks per day, and at least two 'alcohol free days' each week can help you stay healthy.

Don't smoke

Smoking has been shown to raise fracture risk substantially.

Maintain a healthy weight

If you are underweight (BMI < 20) you are at greater risk of a fracture.



Diagnosis of osteoporosis

Your doctor will make a clinical assessment that may include the FRAX® risk assessment calculation, and may determine that the next step is to have a bone mineral density (BMD) test.

A 'bone density test' (DEXA) is a simple, painless and non-invasive procedure that takes about 20 minutes. DEXA is a low radiation X-ray.

DEXA measures your bone density and helps your doctor to advise you on diet and lifestyle choices to adopt, and if required prescribe appropriate medication.

DEXA bone density test

Heel ultrasound is often available through pharmacies and health shops. It is a screening tool which may indicate low bone density. Results must be confirmed by DEXA (where available) before osteoporosis treatment can be considered.

DEXA scans may not be funded in your region. If you are referred for a DEXA scan, your doctor will advise if payment is required.

Treatment

Once diagnosed, a combination of lifestyle choices and appropriate medical treatment can help fractures to be avoided.

Treatment for those at high risk

Although bone-healthy nutrition is important, you may require some drugs to preserve (or partially restore) your bones.

There are many proven and effective treatments which have been shown to reduce the risk of fragility fracture by 30–50%.

Your doctor will prescribe the most appropriate one for you.

Take osteoporosis medication if prescribed

Bisphosphonates are the drugs routinely used to treat osteoporosis. In New Zealand the most commonly prescribed bisphosphonates are: alendronate (Fosamax®), risedronate and zoledronate (Aclasta®). The first two are taken as tablets weekly and zoledronate (Aclasta®) is given as an infusion annually which may be repeated after 12 months or longer.

Other available treatments include menopausal hormone therapy, raloxifene (Evista®) and teriparatide (Forteo®).

Osteoporosis New Zealand

Osteoporosis New Zealand (ONZ) is a charitable trust dedicated to improving care and outcomes for osteoporosis sufferers. We provide advice, educational material and information for the public and make recommendations for the management of osteoporosis by the medical profession.

Our aim is to help New Zealanders to have better bones and fewer fractures.

If you would like more information on osteoporosis and how to support Osteoporosis New Zealand's charitable work, please go to **www.osteoporosis.org.nz**
email us at **info@osteoporosis.org.nz**
write to us at **PO Box 688, Wellington 6140 New Zealand**
or call **04 499 4862**

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OSTEOPOROSIS NEW ZEALAND
Better bones, fewer fractures

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PREVENTION. CARE. RECOVERY.
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MINISTRY OF HEALTH
MANATŪ HAUORA

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